

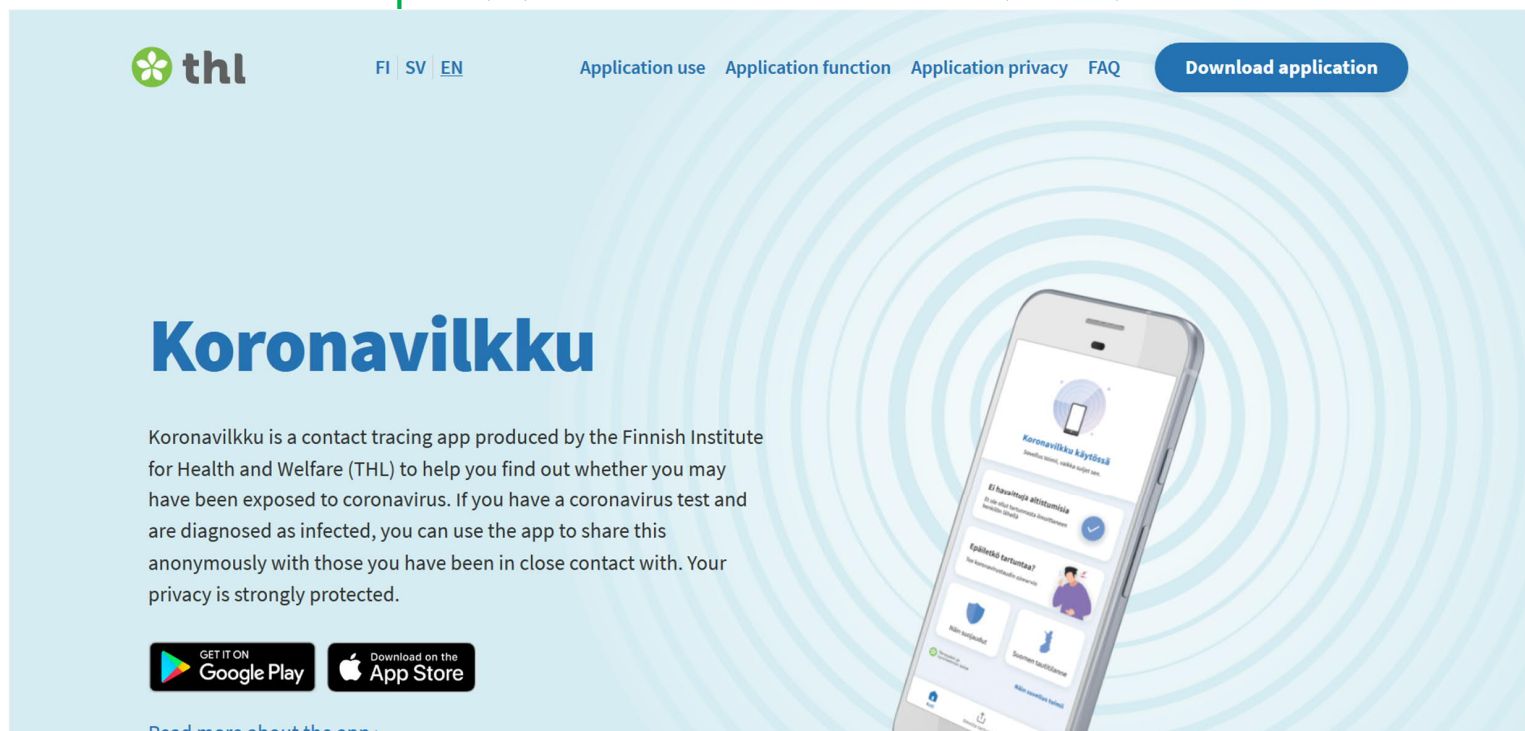
# COMP.SE.100 -EN "ItSE"

## Introduction to Software Engineering 2020, 1-2. periods

5 credit units

ItSE-2020-project\_work-v5

<https://koronavilkku.fi/en/>



The screenshot shows the official website for the Koronavilkku contact tracing app. At the top, there is a navigation bar with the THL logo, language options (FI, SV, EN), links for 'Application use', 'Application function', 'Application privacy', and 'FAQ', and a 'Download application' button. The main heading is 'Koronavilkku'. Below it, a paragraph describes the app as a contact tracing tool produced by the Finnish Institute for Health and Welfare (THL) to help users find out if they have been exposed to coronavirus. It mentions that users can share test results anonymously with those they have been in close contact with, and that privacy is protected. At the bottom left, there are buttons to 'GET IT ON Google Play' and 'Download on the App Store'. At the bottom right, there is a link to 'Read more about the app'. On the right side of the page, there is an illustration of a smartphone displaying the app's interface, which includes a status indicator, a question 'Et ole vielä koronavirus-testattu?', and options to 'Ajaa sovellus' and 'Lataa sovellus'.

# COMP.SE.100 EN (Autumn 2020) COMP.SE.100 FI (Spring 2021)

Two course implementations; English and Finnish.

Same contents.

Almost same material... still many English slides in the Finnish course. Not all slides are translated (Finnish news to English, English pictures/screenshots to Finnish).

Kaksi eri toteutusta, englanniksi ja suomeksi.

Sama sisältö.

Melkein sama materiaali... kaikkea en ole vielä ehtinyt kääntämään sille toiselle kielelle. Eikä kaikkea voi kääntää (esim. suomenkielisiä lehtileikkeitä englanniksi, tai englanninkielisiä tekstitettyjä kuvia/kuvakaappauksia suomeksi).

## ItSE course questions ?

<https://padlet.com/tensu/gzhwiol5clqkgjpk>

Link is at Moodle, at very top.

That Padlet page is checked at least at every lecture.

## ItSE 2020 weekly exercises (WE) attendees

Maximum size of a weekly exercise (WE) group is around 25 students.

Mon 0815-10	9
Mon 1215-14	11
Tue 0815-10	3
Tue 1415-16	8
Wed 0815-10	12

Signing to WE groups have been extended up to Sun 06.09.2020. These voluntary/optional WEs gives some extra/bonus points.

## Signing to project assignment groups ends at Sunday 06.09.2020

Please remember that project assignment groupwork is required to pass COMP.SE.100 course (as are the EXAMs).

Deadline for signing to project groups at Moodle is Sun 06.09.2020 late night.

After that we can assign every group a course assistant.

Feel free to use discussion forum at Moodle to help grouping.

# Project assignment explained

02.09.2020

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7

file: CS100-schedule-2020-v6.xlsx

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sheet: ITSE-2020

week	lectures	exam	weekly exercises	project assignment (exercise work)	week
35	L1: course basics		--- sign to WE groups ---	sign for project = grouping...	35
36	<a href="#">Project Assignment explained</a>		WE1: intro to requirements	grouping, groups to Moodle	36
37	L2: Sw Eng in general		WE2: Trello and agile way	group's Trello board ready with product backlog	37
38	L3: requirements		WE3: feasibility study and stakeholder analysis	working...	38
39	L4: basic UML diagrams		WE4: requirements	working...	39
40	L5: more UML diagrams	EXAM-1	WE5: UML diagrams - Use case	working...	40
41	L6: different sw systems	EXAM-1	WE6: UML diagrams - concept/entity and navigation	deadline for 1st phase documentation and presentation	41
42	examination week		examination week	examination week	42
43	L7: life cycle models		groups' 1st presentations	groups' 1st phase presentations	43
44	L8: quality and testing	EXAM-2	WE7: development processes	feedback group-to-group at PRP, from 1st phase	44
45	L9: project work	EXAM-2	WE8: testing and error reporting	deadline for diagrams first versions (Moodle)	45
46	L10: project management		WE9: effort estimation	feedback to groups from diagrams (from assistants)	46
47	L11: open source, APIs, IPR		WE10: delivery contracts and terms of use	deadline for 2nd phase presentation (PRP)	47
48	L12: embedded systems, IoT	EXAM-3	groups' final presentations	groups' final presentations / feedback g-to-g (PRP)	48
49	L13: recap, summary	EXAM-3	---	final (2.) delivery of project documentation	49
50	examination week		examination week	feedback inside group, student-to-student at PRP	50
51	examination week		examination week	end of game / game over.	51
	Lectures: Wed at 1415-16.		Weekly exercises:		
			Mon 0815-10	AUTUMN 2020 (1-2. periods)	
			Mon 1215-14	are remote/distant learning.	
			Tue 0815-10		
			Tue 1415-16		
			Wed 0815-10.		

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# COMP.SE.100-EN (ItSE)

## Introduction to Software Engineering

Tensu: remember to start Zoom lecture recording, at 1415

Prefer course Moodle over SI SU information.

Students are recommended to follow Moodle News/messages.

# Course structure and requirements, 1

- Lectures (volunteer)
  - Zoom
  - slides in Moodle (pdf)
  - lecture recordings via Panopto
- Weekly exercises (WE, volunteer) grouping DL = 30.08.2020
  - Zoom, Break rooms for groupworking
  - supports lectures and exercise work, gives extra/bonus points
  - no homework, stress yourself only in WE times ;-)
  - presence logging by Jyke's QR-välppä
- Project assignment = exercise work (practical work)
  - made in groups of four (4) students grouping DL = 06.09.2020
  - requirements specification documentation
  - UML diagrams: Concept (Entity), Navigation, Use Case
  - tools: Trello, Dia (/Enterprise Architect), PRP,...
- Exam (electronic EXAM), 3 short exams during the course.

# Course structure and requirements, 3

- Project assignment = exercise work (practical work)
  - made in groups of four (4) students, signing is in Moodle
  - requirements documentation (not exactly a full specification)
  - made in two phases (two returnings/deliveries, and diagram drafts)
  - first (1.) presentation and final (2.) presentation
  - UML diagrams: Use Case, Concept (Entity), Navigation
  - document delivery in pdf format at TUNI Moodle
  - presentation slides' delivery in pdf-format at PRP (via Moodle).
- tools:
  - Trello "project management"
  - Dia (/Enterprise Architect) for UML diagramming
  - PRP (Peer Review Program) peer feedback, self assesment.
- Responsible master assistant: Ulla.

## Project Assignment = Exercise Work

Don't be scared about the amount of documentation. Every graduated MSc has to write some reports and documents, sooner or later. And BSc thesis before that.

Well, everything you do for the first time,  
seems to require a lot of work and be difficult.  
But the second time later on will be much easier. ;-)  
So you have better to start early.

## According to guiding voting at Moodle...

Deadlines for deliverables at COMP.SE.100-EN are at late Sunday night, 2359 o'clock.

So if you want to "ruin your weekend", feel free to use that deadline. But you may deliver your work earlier, even during Friday evening or Saturday daylight.

It is recommended not to leave returning to the last minutes, because there may be delays in slow network.

Project work delivered late is not worth the same points as delivery in time.

## Any problems in grouping ?

Feel free to use Moodle discussion forum for grouping to project assignment (exercise work) groups.

Four students in a group.

Finnish students are encouraged to take international students to their groups.

Deadline is Sun 06.09.2020 late night.

# ItSE – Project assignment

What happens with project assignment?



# Current events

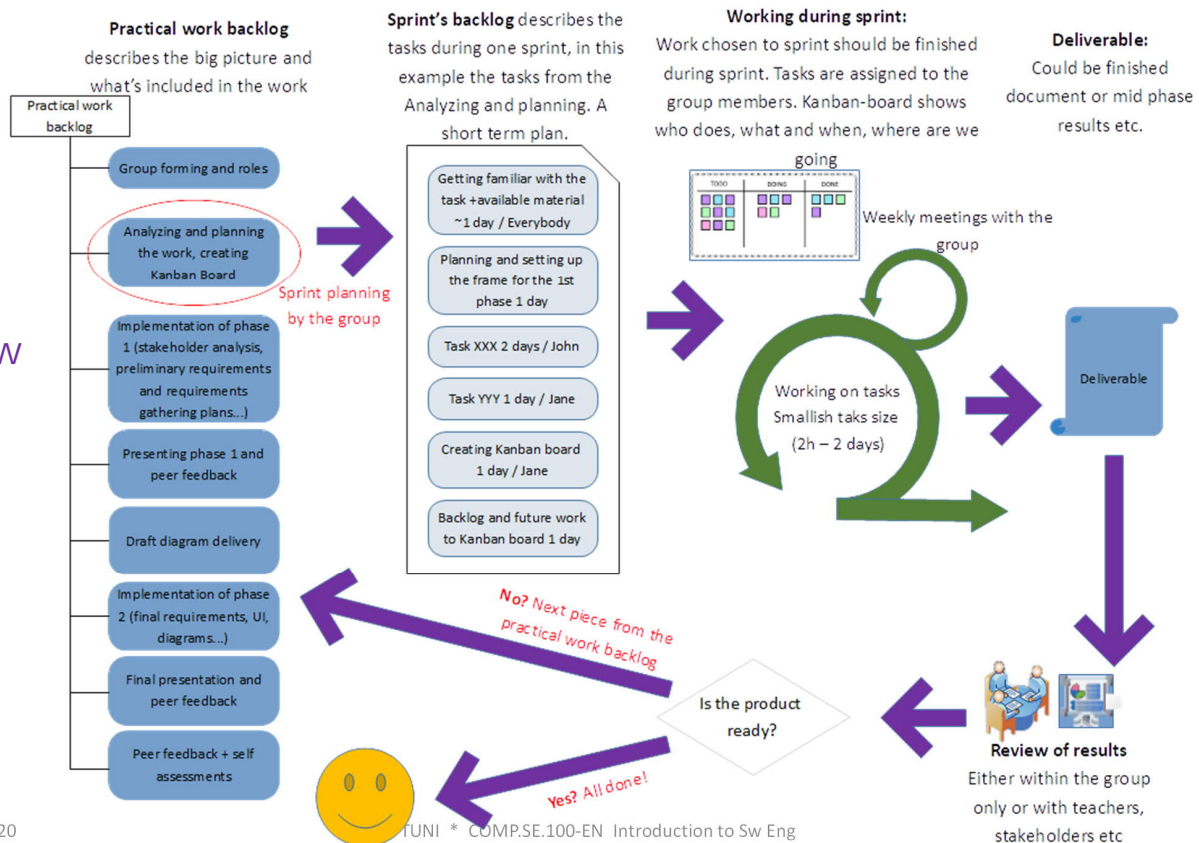
- Project assignment group forming deadline 06.09.2020 in Moodle
  - Form a group of 4 people
  - Create your group under the Moodle task "Sign for project assignment..."
- Assistant will be assigned for each group 07.-08.09.2020
  - List of groups and assistants will be added to Moodle.
- Kanban board setup to Trello, deadline 13.9.2020
  - Invite your assistant to the Trello-board.
  - You can try out Trello in weekly exercise 2.

# Goals

- Get familiar with specifying and documenting a system and to showcase what have been learnt during the course
- Practicing to work in Agile manner
- Usage of UML diagrams in specification
- Working as a team, internal communication.

UML = unified modeling language, "de facto" in sw eng.

## Overview of the project work



02.09.2020

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19

## Process – Scrumban learning

- Here we use term **Scrumban as combination of Scrum and Kanban**.
- Backlog of the practical work is given by the teachers, with deadlines
- Student group is responsible for dividing the larger items in the backlog to manageable pieces to work with and assigning them within the group to its members
- Group works in sprints, and should have regular meetings to decide what to work with next
- Kanban board in Trello should show the status of the tasks you are working with
- Course requires specific deliverables, but group decides length of their sprints (usually 1-2 weeks/sprint).
- Group should have multiple sprints between deliverables.
- In Scrum, the length of the sprint is constant, but the amount of tasks / work items may vary inside sprints.

02.09.2020

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20

# Scrumban learning

- Visualizing the different phases of work
- Regular "meetings" (can be online), within group and also presenting to assistant
- Iterative working
- Transparent process (using Kanban to visualize work and presentations to showcase your results)
- Peer feedback and self assessments
- You are practising the iterative process also with this project assignment.

## Backlog items with deadline

- W36, 06.09.2020 23:59 Group forming (Moodle)
- W37, 13.09.2020 23:59 Trello creation (Trello)
- W41, 11.10.2020 23:59 Phase 1 documentation (Moodle)
- W41, 11.10.2020 23:59 Phase 1 presentation slides (PRP-tool)
- **Week 43** **Phase 1 presentations (Zoom meetings)**
- W44, 01.11.2020 23:59 Phase 1 peer feedback (PRP-tool)
- W45, 08.11.2020 23:59 Phase 2 diagrams draft versions (Moodle)
- W47, 22.11.2020 23:59 Phase 2 presentation slides (PRP-tool)
- **Week 48** **Phase 2 / Final presentation (Zoom meetings)**
- W49, 06.12.2020 23:59 Final delivery of documentation
- W49, 06.12.2020 23:59 Phase 2 / Final peer feedback (PRP-tool)
- W50, 13.12.2020 23:59 Final peer feedback and self assessments (PRP-tool)

# Project assignment

- Topic: **Ordering system**
  - Frame story available in Moodle next week
- Main deliverable: **Specification(ish) documentation with stakeholder analysis and requirements gathering plan**
- Other deliverables: Presentation slides and presentations, peer feedback and self assessments
- More detailed **document structure** also available in Moodle. Includes the guidance for what is mandatory in each chapter or section in the document
- Groups: Done in groups of 4 people
- Each group is assigned an assistant.

02.09.2020

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23

Cover page (not necessarily page number):

Version history (page 1):

Table of contents (page 2):

header/footer (to identify every page)

## 1. Introduction

1.1. Contents and purpose of this document

1.2 Product, scope and environment

1.3 Users and purpose of use

1.4. Terms, definitions and abbreviations

## 2. Requirements gathering plan

2.1. Background and current situation

2.2. Analyzing current documentation and similar products

2.3. PESTE/STEEP

2.4. Stakeholder analysis

2.5. Preliminary requirements and their categorization

2.6. Methods and timetable for requirements gathering

## 3. Requirements and modeling the system

### 3.1. Modeling (diagrams)

3.1.1. Use case diagram(s)

3.1.1.1 Example use case 1

3.1.1.2 Example use case 2

3.1.2 Entity/Concept diagram

3.1.3 Navigation diagram

### 3.2. User interface

### 3.3. Requirements

3.3.1. Example requirement 1

3.3.2. Example requirement 2

3.3.3. Example requirement 3

### 3.4. Environment

3.4.1. Other related systems and specialties

3.4.2. Required connections, communication and other environmental requirements

3.5. Ideas for further development

3.6. Open issues

References

Appendices (A, B, C,...)

## Project assignment, requirements documentation

02.09.2020

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24

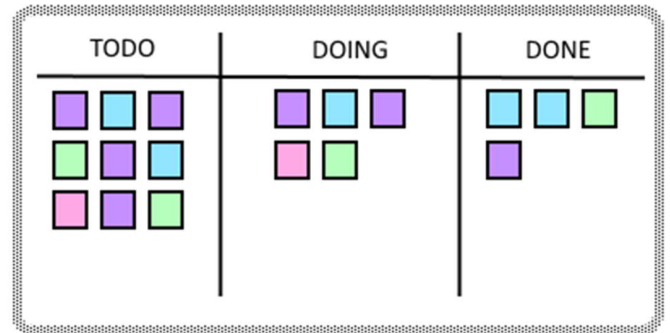
# Support material in Moodle

- There is a folder under the project assignment section "guidelines and document templates"
- It will include the document structure and process overview but also some examples of formats we want you to use for specific tables etc.

# Different phases

# Trello & Kanban board

- Weekly exercise 2 will go through some Trello usage if you are unfamiliar with it
- Used to visualize your work in process, what has been done and what future work contains
- Kanban board has roots as a Lean principled tool.



## Trello & Kanban board, contd

- Group starts with the given backlog item list (TODO).
- For each sprint, group picks item from the backlog and splits it to smaller pieces.
- DOING-list should at the start of sprint include items/cards that will be worked on and completed during that sprint.
- After each item is finished, it should be moved to DONE-list.
- Required lists are TODO, DOING, DONE and ASSISTANT. However, if your group wants to add other lists, for example to link materials, feel free to do so.

# First phase

- In first phase your goal is to identify what you currently know about the project, what kind of stakeholders are in the picture and what are the currently known requirements.
- The Frame story will get you started, but as you further decide what kind of project you are actually doing, you might (or even should) at this point identify any other stakeholders such project would have.
- After stakeholders are identified, groups plan how the requirements are gathered from the stakeholders.
- You will return at the end of this phase the chapters 1 and 2 from the document.

# First phase presentation

- Presentation sessions will have 3-5 groups presenting their current status
- Slides will be returned to the PRP tool, where other groups then should be able to see them, too.
- Other groups in the session will act as stakeholders and will evaluate and comment on the content of the presentation from the stakeholders' point of view.
- After the presentations, groups will give peer feedback for the other groups in same session. This is done in the PRP tool.
- Peer feedback in here should discuss the presentation.
- Required contents for the presentation will be published closer to the presentation date. However, the contents are mainly taken from the documentation.

## Second phase

- In first phase groups planned how to gather the requirements.
- Second phase starts at the point where the requirement gathering has already been done and now everything is put together.
- As we don't have real customer present, group should supplement missing things.
- Final delivery will contain the whole document.

## Second phase, draft diagrams

- Before the final delivery, groups will return their draft diagrams on separate deadline, so assistants can give short comments on them.
- Goal is for groups to also practice using the diagrams as tools while trying to understand what kind of system they are building.



## Second phase presentation

- Groups return slides (PRP tool)
- Required content of the slides will be published later
- At this point it is assumed that the contents of the documentation are mostly finished and content of the second presentation is drafted from the documentation also.
- Discuss also what you learnt during the process.
- Presentation session and peer feedback afterward is similar to the phase one presentation.

## Final delivery

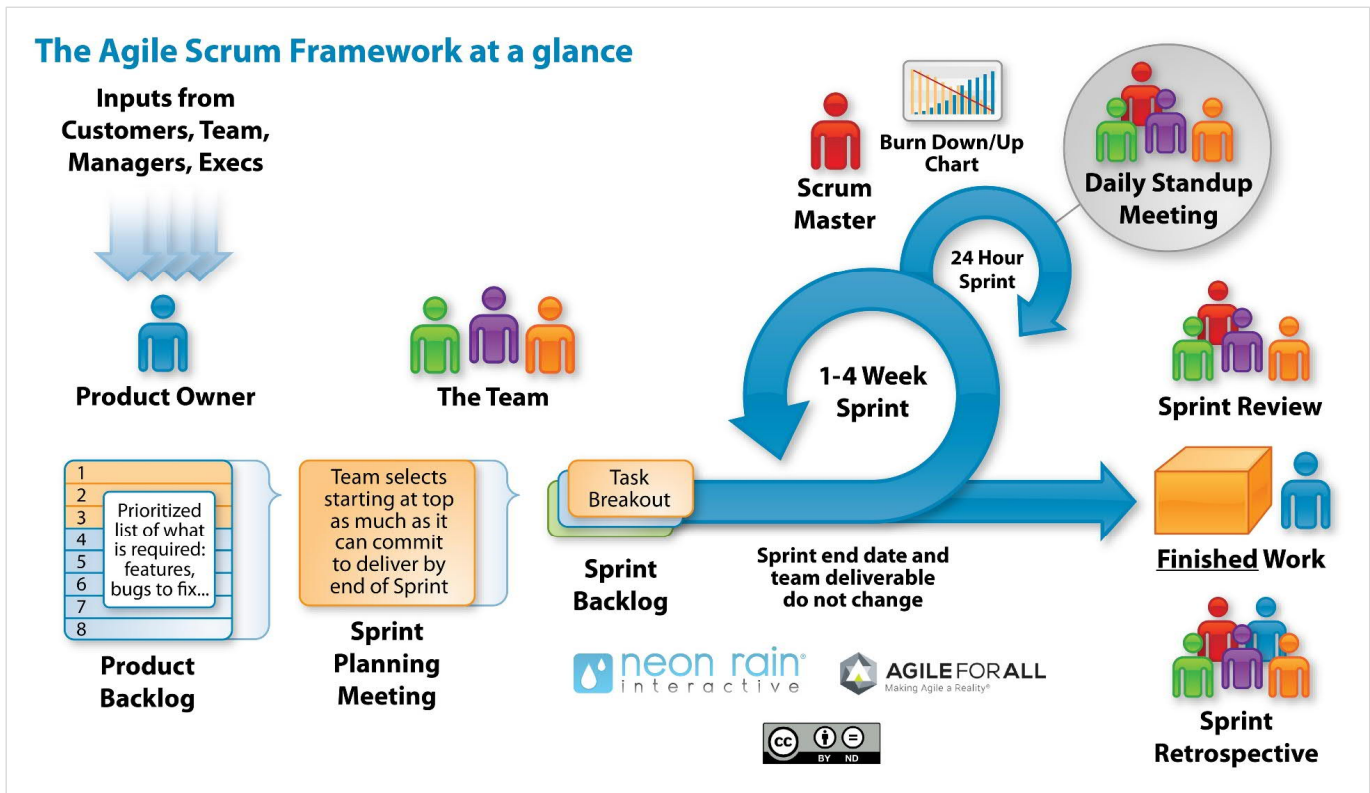
- Return of the full document, with all things included
- Students have short time to fix or add content after the 2nd phase presentation.
- Final document should be cohesive and content in first and second phase should match, and naturally with diagrams.
- If changes are necessary to first phase chapters, they should be marked clearly, for example by using italics for the changed parts.

# Peer feedback + self assessments

- After the Final delivery is made, students will give peer feedback and do self assessments about how each member of the group participated in the project assignment.
- This is also done in the PRP tool.

## Trello tool

## The Agile Scrum Framework at a glance



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37

## Next: Trello board, for work division and scheduling

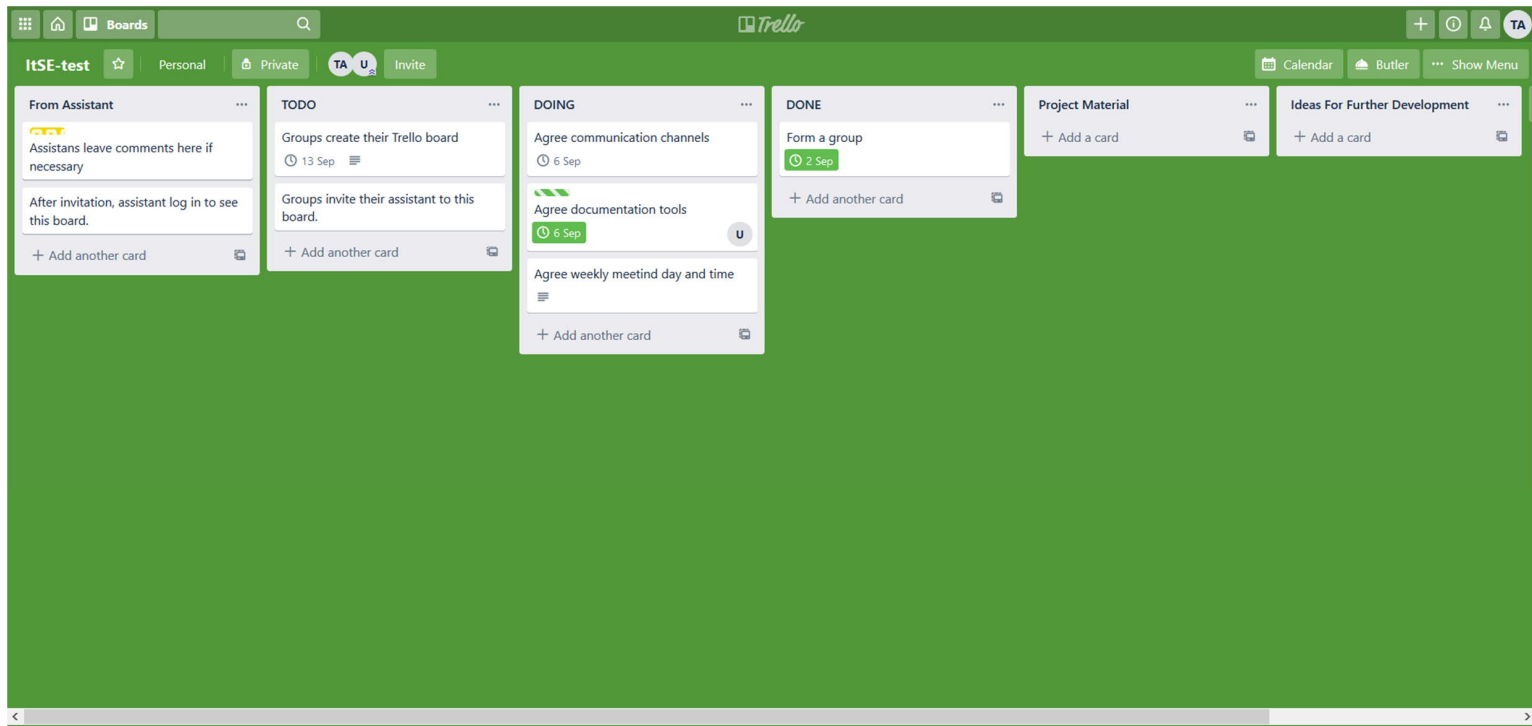
- at ItSE (and JOTU) courses groups have been using Kanban board for finding out tasks, dividing those to groupmembers, and also scheduling
- so that nothing is forgotten
- Trello tool is free and easy to use ([www.trello.com](http://www.trello.com))
- you may well use trello e.g. to plan your studies, hobbies, or holiday trips
- and once again, groups set up their Trello board by Sun 13.09.2020 and invite their group assistant there (group assistants are assigned to groups after grouping has ended).

02.09.2020

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38

Four leftmost are the default lists/columns at group's Trello board

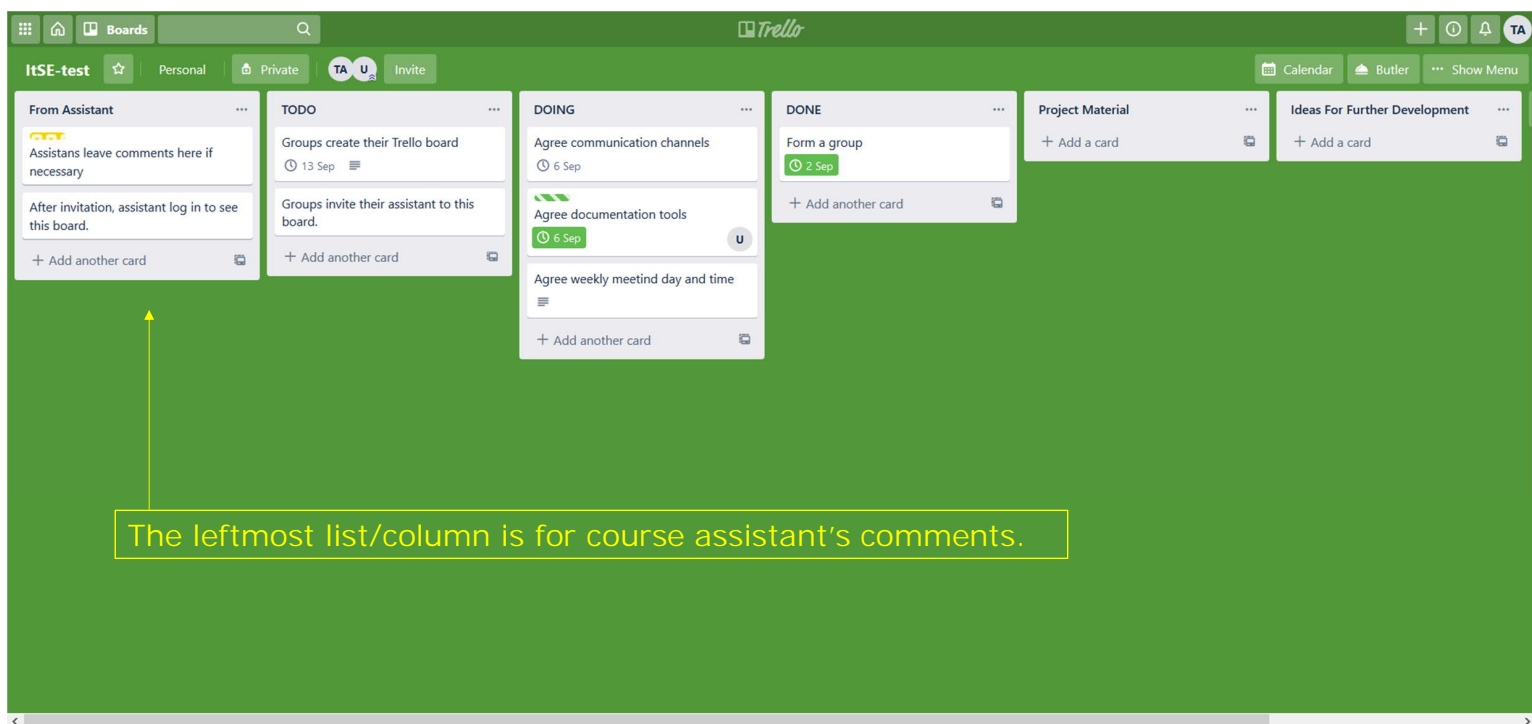


02.09.2020

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39

Default lists/columns at group's Trello board



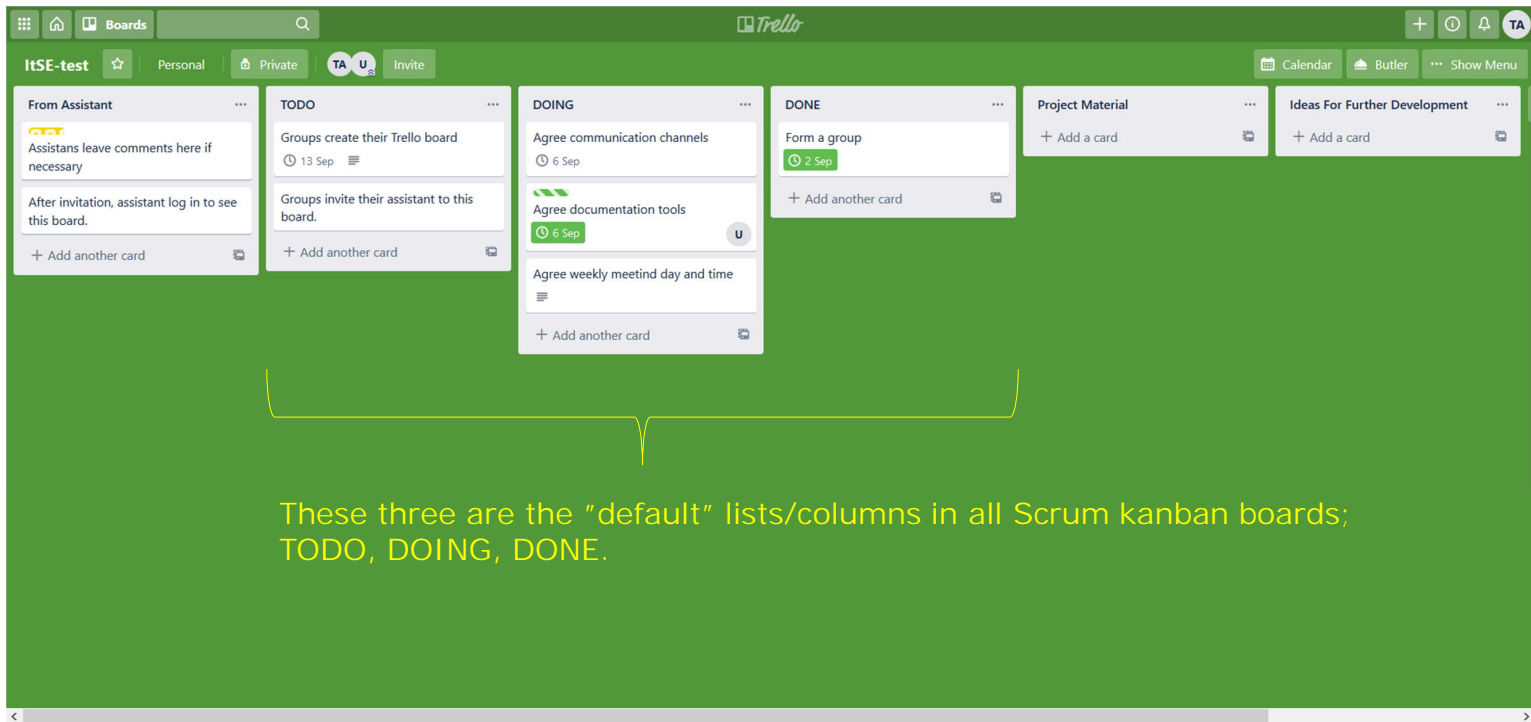
The leftmost list/column is for course assistant's comments.

02.09.2020

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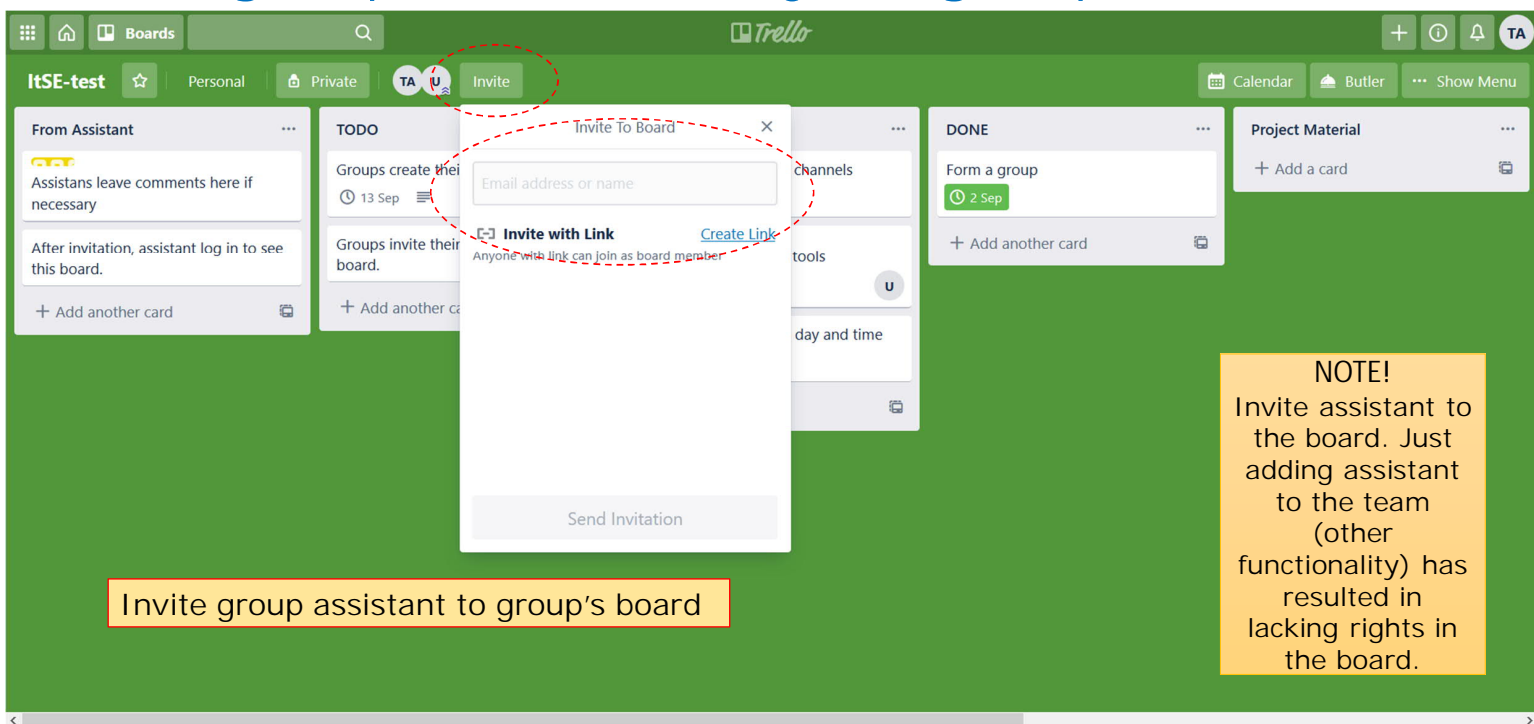
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## Default lists/columns at group's Trello board

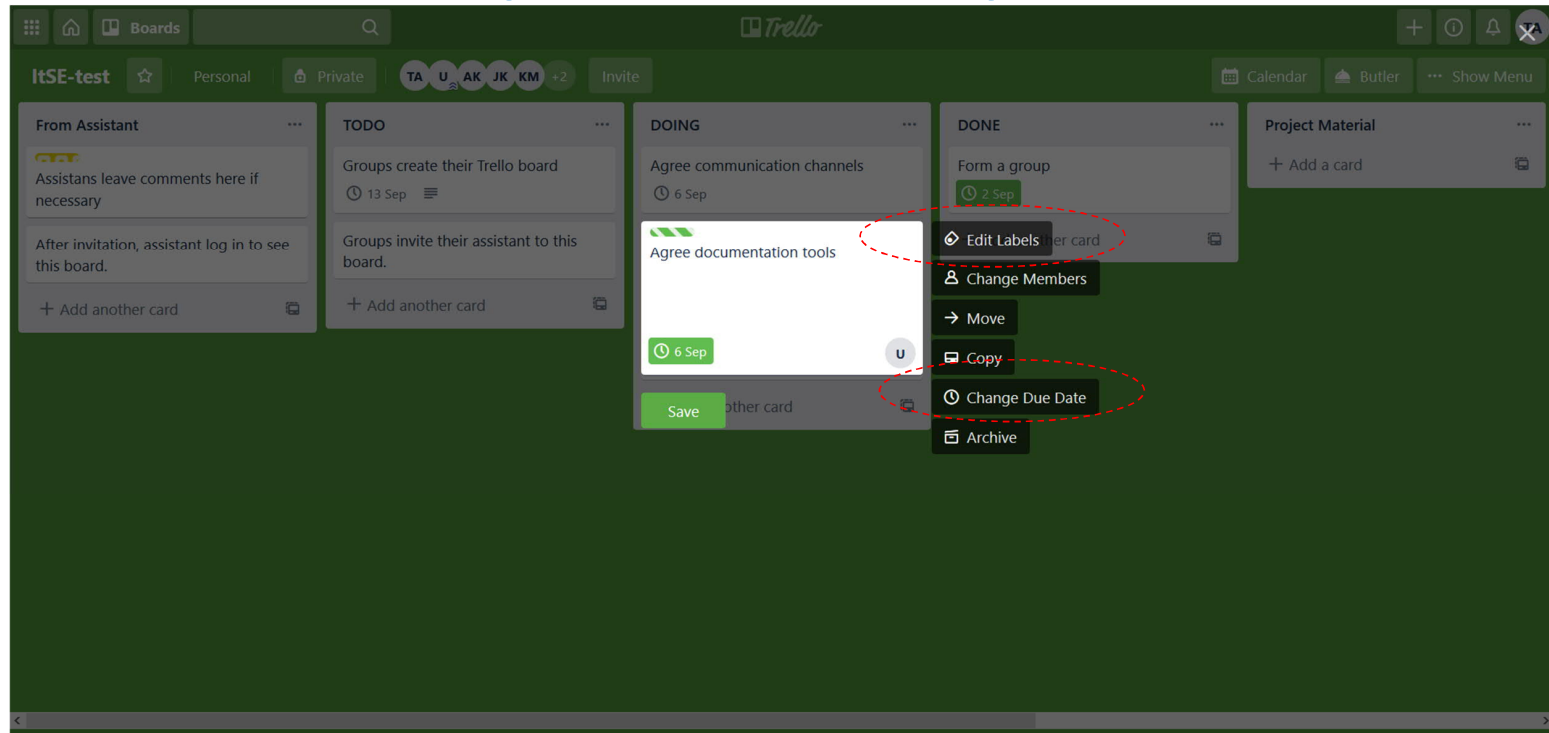


These three are the "default" lists/columns in all Scrum kanban boards; TODO, DOING, DONE.

## Invite group assistant to your group's Trello board



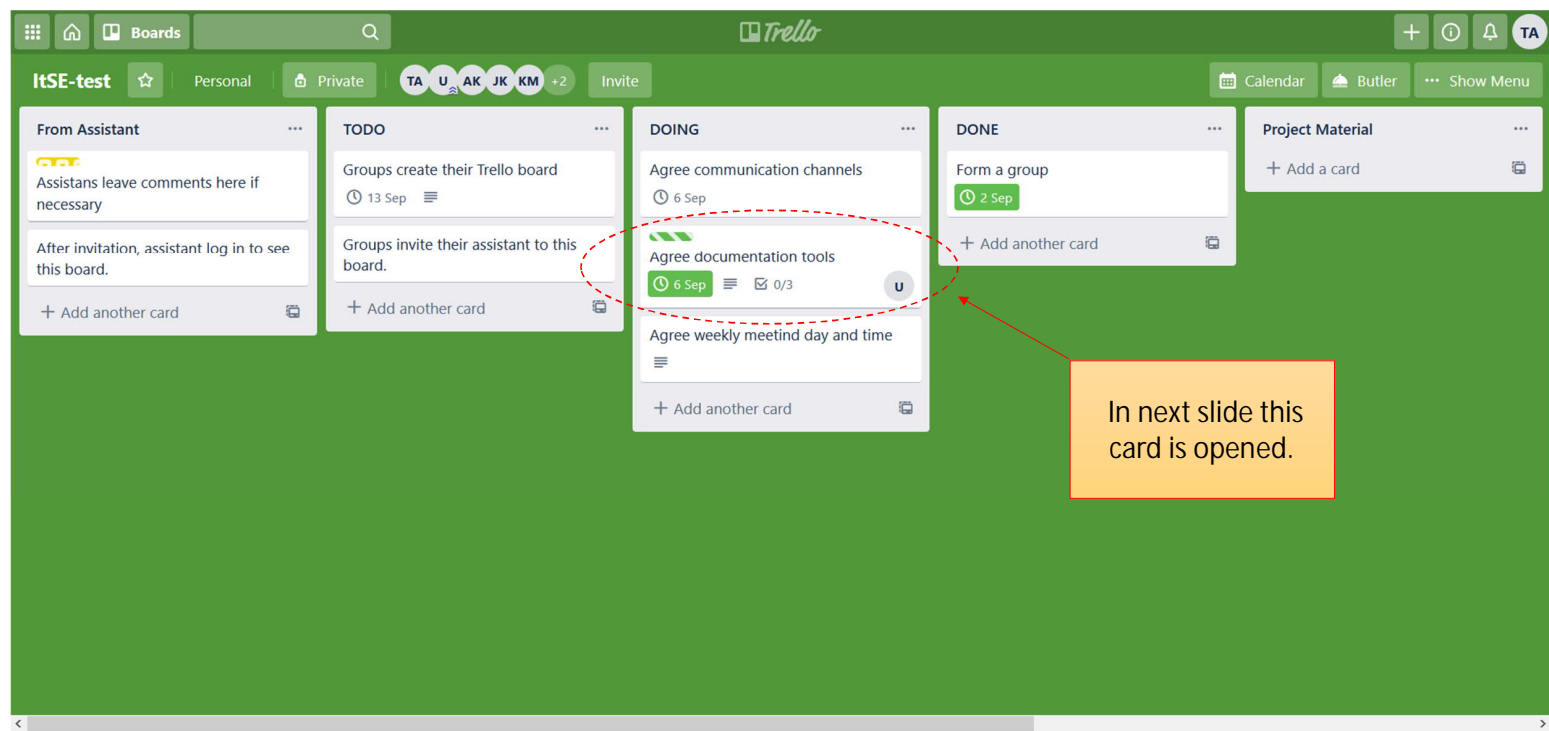
# You can easily edit and modify card/task



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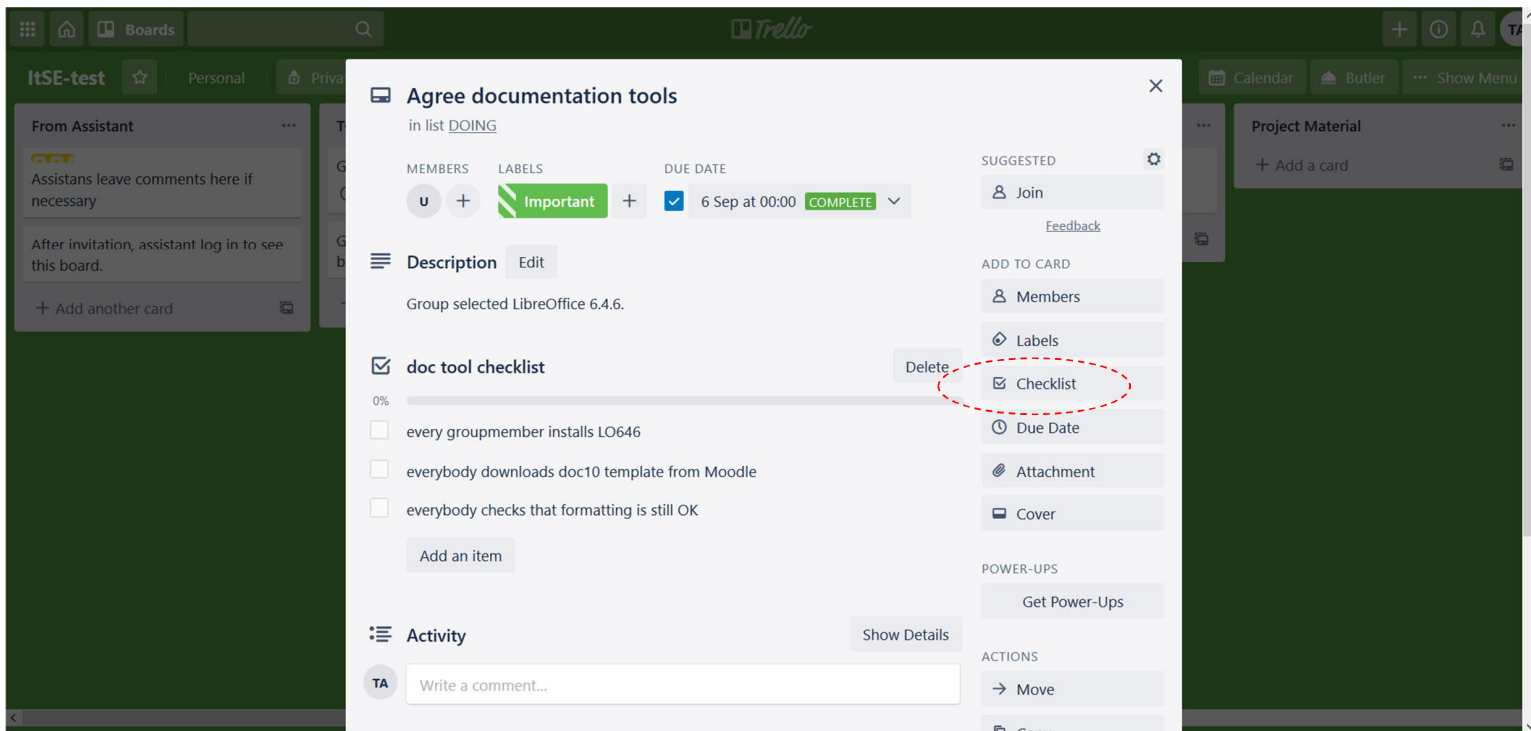
43



02.09.2020

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44



02.09.2020

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45

## Some other Trello features



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46